

Date: Thu, 14 Jan 93 04:30:20 PST
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V93 #58
To: Info-Hams

Info-Hams Digest Thu, 14 Jan 93 Volume 93 : Issue 58

Today's Topics:

 [Re:] Maidenheads Grids in a GPS Rcvr
 Daily Solar Geophysical Data Broadcast for 13 January
 Desense, nonsense, and filter design
 Info-Hams Digest V93 #51
 intermod, overload, desense?
 PC repeater controller

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 14 Jan 93 04:59:22 GMT
From: news-mail-gateway@ucsd.edu
Subject: [Re:] Maidenheads Grids in a GPS Rcvr
To: info-hams@ucsd.edu

In response to the recent inquiry about which models of GPS receivers
contain the Maidenhead grid system:::

Sorry, but these are the HIGH-END Trimble units, NOT the hobb-market
units you mentioned.

Contact W6RXQ, Art Lange, at Trimble for more info.

73, Bob W30TC

No endorsement given. Opinions expressed here may not be my own, and
certainly are not my employer's.

Date: 14 Jan 93 07:52:57 GMT
From: news-mail-gateway@ucsd.edu
Subject: Daily Solar Geophysical Data Broadcast for 13 January
To: info-hams@ucsd.edu

!!BEGIN!! (1.0) S.T.D. Solar Geophysical Data Broadcast for DAY 013, 01/13/93
10.7 FLUX=141.2 90-AVG=141 SSN=146 BKI=1111 2324 BAI=008
BGND-XRAY=B6.5 FLU1=2.0E+06 FLU10=1.1E+04 PKI=1122 3324 PAI=009
BOU-DEV=006,008,008,008,012,020,019,040 DEV-AVG=015 NT SWF=00:000
XRAY-MAX= C9.2 @ 0259UT XRAY-MIN= B5.3 @ 2248UT XRAY-AVG= C1.7
NEUTN-MAX= +003% @ 1335UT NEUTN-MIN= -002% @ 1125UT NEUTN-AVG= +0.2%
PCA-MAX= +0.1DB @ 2255UT PCA-MIN= -0.4DB @ 0940UT PCA-AVG= -0.0DB
BOUTF-MAX=55429NT @ 1518UT BOUTF-MIN=55395NT @ 2005UT BOUTF-AVG=55416NT
GOES7-MAX=P:+122NT@ 2011UT GOES7-MIN=N:+005NT@ 1011UT G7-AVG=+086,+028,+011
GOES6-MAX=P:+143NT@ 2005UT GOES6-MIN=E:-012NT@ 2139UT G6-AVG=+105,-002,+037
FLUXFCST=STD:145,140,140;SESC:145,140,140 BAI/PAI-FCST=010,010,015/010,010,015
KFCST=2332 2223 3333 3333 27DAY-AP=005,017 27DAY-KP=1322 1211 0033 4543
WARNINGS=*SWF
ALERTS=**SWEEP:II=2@0259UTC
!!END-DATA!!

Date: 14 Jan 93 05:37:58 GMT
From: news-mail-gateway@ucsd.edu
Subject: Desense, nonsense, and filter design
To: info-hams@ucsd.edu

References <1993Jan9.141959.17257@ke4zv.uucp>,
<1is80mINNb0r@clover.csv.warwick.ac.uk>, <1993Jan12.095904.7329@walter.cray.com>
<usc!howland.reston.ans.net!spool.mu.edu!agate!doc.ic.ac.uk!warwick!warwick!not-
for-mail@network.UCSD.EDU > Subject : Re: intermod, overload, desense?
In article <1993Jan12.095904.7329@walter.cray.com> jwl@ferrari.cray.com (Jim

>..Couple of posts regarding details of quarter wave stub deleted..

[Beaucoups of wonderful theory and discussion of filters deleted...]
--and, why delete that?

Because, gentlepeople, the original question had to do with eliminating
an interfering 144Mhz signal from a TV. Now, I just betcha the TV
operates on Cable, and the offensive interference is at its *very* worst
on CATV channel 18, better known as Channel "E" in the "olden days" and
guess what the frequency range is, gang....

Yep, 144-150MHZ. So, ya'll, if you are successful in eliminating the offensive Ham sigs, the TV viewer isn't likely to see what they wanted to in the first place, and we'll be back to square one. Only we'll have a Radio SHack making a profit, an upset Ham with Quiet hours, and an irate TV viewer who will blame everything, including the dog's bad habits on Amateur Radio...

Personally, I'd like to see the private versus open folx follow Brian's wish and "take it to the streets!" Not *that* had some real potential ;^)

73

```
-----  
| Jack GF Hill      Voice: (615)459-2636   root@jackatak.raidernet.com |  
| P. O. Box 1685    modem: (615)377-5980   Compu$erve 76427,31 |  
| Brentwood, TN 37024 Bicycling and SCUBA Diving   Ham Call: W4PPT |  
+-----+
```

```
-----  
Date: 13 Jan 93 20:15:59 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Info-Hams Digest V93 #51  
To: info-hams@ucsd.edu
```

Unsubscribe me!

John

```
-----  
Date: Wed, 13 Jan 1993 21:29:31 GMT  
From: sdd.hp.com!hpscit.sc.hp.com!hplextra!hpl-opus!hpnmdla!alanb@network.UCSD.EDU  
Subject: intermod, overload, desense?  
To: info-hams@ucsd.edu
```

In rec.radio.amateur.misc, gary@ke4zv.uucp (Gary Coffman) writes:

```
>>>>Ant-----T-----radio  
>>>>          |  
>>>>          |  
>>>>          open  
>>
```

>This design can be considered a cavity notch filter with the coax serving
>as a single port cavity. The Q of the filter is dependent on the quality
>of the coax. Lossy RG58 will perform modestly while 6 1/8 inch airline
>will be superb. In between, you should find the results a satisfactory

>compromise between cost and performance.

...

>The Q can be calculated if the loss per foot and characteristic impedance
>of the coax are known. $Q = X/R$ so setting $X = 50$ for common coax, we
>divide that by loss resistance to get Q. RG-8 has a loss of about 2 db per
>100 feet at 100 MHz. A 10 foot section should then have a loss of 0.2 db,
>or an equivalent series loss resistance of 1.0471 ohm. That yields a Q
>of about 47.74 for an ultimate insertion loss of 16.8db. At 100 MHz, that
>gives a 3db bandwidth of about 2 MHz.

Except that at 100 MHz, 1/4 wave is about 3/4 meters, or about 19"
including velocity factor. Assuming 2 dB/100 ft, loss is about
.03 dB or .35 ohms. Assuming a 50-ohm source and load, this results
in a 37 dB notch.

AL N1AL

Date: 14 Jan 93 04:51:03 GMT
From: agate!netsys!ukma!cs.widener.edu!netnews.upenn.edu!eniac.seas.upenn.edu!
depolo@ames.arpa
Subject: PC repeater controller
To: info-hams@ucsd.edu

In article <1ilgetINN6pc@matt.ksu.ksu.edu> steve@matt.ksu.ksu.edu (Steve
Schallehn) writes:

>phr@telebit.com (Paul Rubin) writes:

>

>>Why can't someone make a repeater controller out of a simple
>>personal computer (286 class), with maybe a relay box controlled...

There is such a beast soon to hit the market. It's made by A-to-D (?)
technologies. It uses a 286 with a hefty hard drive, some custom hardware,
etc. There is one machine in the area that is beta testing it (I don't
remember the model number). It comes with a digital voice recorder (very
good quality audio), mailboxes, autopatch, everything. The interesting
thing about it is that all user functions are done through menus. When
user #10 wants to do something (e.g. use the autopatch, check his mail,
leave mail, etc.), he enters his own access code and it replies "WN3A logon"
and then you enter the function code (called a "CFC"). From then out,
it's all menus. For example, the message submenu would say "1 - Read, 2 -
Record, 3 - Send, 4 - Delete", etc. Pretty neat, although it does get
annoying listening to all the menus. You can skip the menu just by hitting
the appropriate commands without listening to the menus, though. Each user
has his/her own "account" on the system, so passwords and control codes
are individualized.

Another interesting feature is that all of the voice on the controller is non-synthesized. It's all one-word DVR tracks that are buffered/kept in RAM for playback speed. Sounds really good, basically like a real person with a problem with speech inflection. I believe it also has an interface available for controlling Icom 900/901 band units like the ACC controllers.

Someone mentioned RF shielding. Most good repeater installations should be shielded well enough that RFI from the computer should be minimal. That means good shielding of the RF compartments in the repeater, tight-braided audio interconnect cables, double-shielded (e.g. RG400) or flexible hardline for all RF interconnects, hardline for the feedline, etc. This is good practice whether or not a computer is at the site. Keeping the repeater in a separate cabinet and running shielded audio/logic cables choked off with ferrite between the main repeater cabinet and the controller cabinet would probably be the safest route.

Problems caused by temperature variations at a site is a different story...

As for lockup-prevention, the safest bet for something like this would be to have an auxiliary AC power control connected to the phone line. Honeywell makes a box that we use on one of our repeaters that you program to have answer then phone on x number of rings (where x would be more than the number of rings the controller is set up to pick up on). Once it answers, you hit * to turn the relay in the Honeywell box off (shut off the AC), and then # to turn it back on, which resets the hung computer. A similar device could be built relatively easily. It's nice because you can share the same line that the repeater controller uses. Now, if the controller hangs while it has the phone off the hook, that could be a problem. RF control with the same capabilities might be a good way to go too.

As for the A to D controller, it sounds interesting. I thought about doing the same kind of thing with a SoundBlaster, and built up a small device control board with 8 open-collector outputs and 8 logic-level inputs with an RS-232 interface that you could poll/program through a com port on the PC. The SoundBlaster didn't have good enough synthesized speech, and I never went through the trouble of DVR'ing my own vocabulary. I got bored with the idea, and ended up getting an RC-85, which I've been very happy with.

So far, they've had few problems with their beta setup. I still haven't seen any marketing hype from the manufacturer in any of the rags yet - I'd imagine it would be soon. They've been using the controller since the summer. (For those of you in the area, it's the Parkesburg repeater KJ6AL on 442.000 94.8 Hz PL - ask KJ6AL or WA3GMS about it).

--- Jeff

--

Jeff DePolo WN3A Twisted Pair: (215) 337-7383
depolo@eniach.seas.upenn.edu RF: 443.800+ MHz 442.700+ MHz 24.150 GHz
University of Pennsylvania

Date: Thu, 14 Jan 1993 02:56:57 GMT
From: usc!howland.reston.ans.net!paladin.american.edu!gatech!udel!sbcs.sunysb.edu!
rick@network.UCSD.EDU
To: info-hams@ucsd.edu

References <PHR.93Jan12184633@napa.telebit.com>,
<1j0ndqINN6p8@clover.csv.warwick.ac.uk>, <N4HY.93Jan13123853@growler.UUCP>
Subject : Re: Anybody want to talk about Clover?

In article <N4HY.93Jan13123853@growler.UUCP> n4hy@growler.UUCP (Bob McGwier)
writes:

>Clover is multicarrier QAM. The constellation on each carrier, as well as
>the baud rate can be varied, in response to conditions. The better the
>conditions, the more points in the constellation on each carrier, and the
>higher the symbol rate. It is not new, Telebit has been doing it for years
>on telephone lines. What Ray does that Telebit does NOT do, is FEC. Part of

And before Telebit, there is a fair amount of literature dating
as far back as the late 60's (eg Saltzbergs paper in IEEE COM-15,
No 6 titled "Performance of an Efficient Parallel Data Transmission
System") covering multicarrier QAM systems. It would be interesting
to see what new claims the HAL patent filing makes.

I have to admit the one thing about Clover that bugs me a bit is
the patent filing; I support the notion of folks getting compensated
for their hard work, however, many recent patent filings seem to only
be anti-competitive devices. One can only hope that the HAL patent
on Clover is not used in such a way.

>BMc

Rick Spanbauer, SUNY/Stony Brook

End of Info-Hams Digest V93 #58
